REMARKS

Claims 1-30 are currently pending in the present application. Claims 21-30 have previously been withdrawn. Claim 1 has been previously amended. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicants' remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the office action of February 12, 2007, the following actions were taken:

(1) Claims 1-4, 6-18, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,120,588 (hereinafter "Jacobson") in view of U.S. Pat. No. 4,301,196 (hereinafter "McCormack");

(2) Claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson in view of McCormack and further in view of JP 08-319575 (hereinafter "Takeda"); and

(3) Claim 19 was rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson in view of McCormack and further in view of U.S. Pat. No. 3,918,927 (hereinafter "Wells").

It is respectfully submitted that the presently pending claims be examined and allowed.

Rejections Under 35 U.S.C. § 103

The Examiner has rejected claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over several references.

The Applicant does not deem it necessary to recite the entire case law standard required in order to establish a *prima facie* case of obviousness. However, the Applicant would like to briefly remind the Examiner of the required three criteria for a *prima facie* case of obviousness, namely that the asserted references as modified or combined must: 1) teach or suggest each and every element of the claimed invention; 2) provide sufficient motivation for the modification or combination asserted; and 3) provide a sufficient likelihood of successfully making the modification or combination.

Specifically, the Examiner has rejected claims 1-20 as being obvious in view various combinations of Jacobson, McCormack, Wells, and Takeda. As such, a brief description of these references is believed to be in order.

Jacobson

Jacobson teaches electronically active inks for electroless plating. The inks may be applied by an ink jet system. However, as noted by the Examiner, Jacobson does not teach an electroless active layer.

McCormack

McCormack teaches electroless copper deposition. The method includes the use of stannous chloride and palladium chloride.

Wells

Wells teaches a standard electroplating technique. The Examiner alleges that Wells discloses the use of an acidic palladium chloride solution to mar the surface of the substrate. However, Wells teaches that the acidic palladium chloride solution is used "to remove the tin salts." See col. 11, line 60. As such, Wells does not teach specific marring of the substrate.

Takeda

Takeda teaches the use of $Pd(NH_3)_4Cl_2$ as a palladium salt for electroless plating over carbon fine grains.

The Examiner has rejected the pending claim set over Jacobson in combination with several references. The rejections include Jacobson as the primary reference in combination with McCormack as a secondary reference. As previously discussed, Jacobson teaches an ink jet system for printing inks containing metal ions and a reducing agent. However, as noted by the Examiner, Jacobson does not teach an electroless active layer. It is also pointed out that Jacobson does not ink-jet its ink onto an electroless active layer, nor is the reducing agent contacted with the metal composition on the electroless active layer. The Examiner uses McCormack, which teaches the use of stannous chloride and palladium chloride as a sensitizing and seeding solution, to allegedly cure the at least three missing elements of Jacobson.

As the Applicant has previously argued, there is no advantage to be derived from the combination of Jacobson with McCormick, the Examiner has

responded that the motivation may be provided from the combination as a whole and that the "other chemistries" cited in Jacobson is a suggestion to look beyond Jacobson to other art. However, the Examiner has taken this phrase out of context. Jacobson actually reads:

> As an example, to form a metallic trace silver nitrate ($AgNO_3$) may be used for jet **420** and a suitable aldehyde may be used for the reducing jet **430**. Many other examples of chemistries suitable for the present system are known in the art of electroless plating.

In other words, the other examples of chemistries refer to other combinations of metallic traces and reducing agents. Such a sentence does not teach of the need for seeking conventional electroless deposition systems, which Jacobson claims to have advantages over.

The Examiner also cites McCormick as teaching sensitization, stating "McCormack . . . would provide an electroless active layer as claimed, in order to get 'improved deposition' (see column 7, lines 1-5, for example)." See Office Action, page 11. However, upon close inspection of McCormick, this referenced section actually refers to etching. Column 7, lines 1-5, states in part, "improved deposition is achieved if the metal foil is immersed in a palladium chloride/hydrochloric acid solution for about 1 minute . . . ." Such an acid etching step is well-known and is disclosed in the present invention. However, after careful inspection, Jacobson teaches away from the use of this type of chemistry. Specifically, Jacobson states that "FIGS. 7-9 depict other types of electronically active ink systems . . . for depositing semiconductive materials in a binder on a large class of substrate materials . . . without the need for an etch step . . . ." See col. 9, lines 16-28. In fact, the first sentence of the summary of the invention states "[i]n general the present invention provides a system of electronically active inks and means for printing said inks in an arbitrary pattern onto a large class of substrates without the requirements of standard vacuum processing or etching" (underlining added). See col. 1, lines 49-52. As such, the present combination is improper as

Jacobson teaches away from etching and McCormick specifically uses acid to etch or sensitize the substrate.

As the Applicant has raised the issue of teaching away, the Applicant would like to review the current case law regarding teaching away for the Examiner's convenience. The Court of Appeals for the Federal Circuit has clearly stated that "an applicant may rebut a *prima facie* case of obviousness by showing that the prior art teaches away from the claimed invention in any material respect." In re Petersen, 315 F.3d 1325, 1331 (Fed. Cir. 2003). The Court has also stated that "[w]e have noted elsewhere, as a 'useful general rule,' that references that teach away cannot serve to create a *prima facie* case of obviousness." (emphasis added) McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1354 (Fed. Cir. 2001). In identifying the appropriate standard for teaching away, the Court has further stated:

> A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. (emphasis added) In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994).

As such, the present combination is improper as Jacobson would discourage one skilled in the art from using acid for etching or to perform any other type of etching step. Therefore, the Applicant submits that the present 103 rejections using combinations of Jacobson and McCormack are improper, and respectfully requests that the Examiner withdraw these rejections.

Additionally, the Applicant wishes to address the Wells reference. As previously discussed, the Wells reference does not teach marring of the substrate as argued by the Examiner; rather the acidic palladium chloride solution is used "to remove the tin salts." See col. 11, line 60. However, given the teachings of Jacobson, even if Wells could be construed to teach a marring or etching step, such a combination would be improper as Jacobson

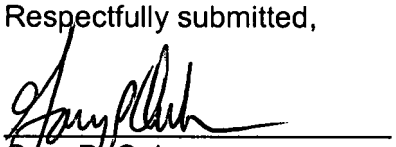
teaches away from an etching step. Therefore, the Applicant submits the present combination of Jacobson and Wells is improper. As such, the Applicant respectfully requests that the 103 rejections using the Wells reference be withdrawn.

In view of the foregoing, Applicants believe that claims 1-20 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone the undersigned attorney at (801) 566-6633 so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

Dated this 10th day of May, 2007.

Respectfully submitted,



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